Identity marks in ancient Egypt: Scribal and non-scribal modes of visual communication

Ben Haring

Abstract: Writing – of any type – is a highly complex system of visual communication, but it is by no means the only such system in societies that make use of it. It is always accompanied by other graphic codes, some of which present striking resemblances to writing. The interchange between these codes (including the exchange of systemic features and of graphic morphology) is fascinating. Examples of such interchange can be seen in Ancient Egyptian marking systems as related to hieroglyphic and cursive writing[1].

Writing in Ancient Egypt

Ancient Egypt and Mesopotamia have left us the earliest evidence of writing in the strict linguistic sense of the word. In order to qualify as true writing, notations must be capable of conveying messages that are language-specific. Phonetic notation can do this, and indications for phonetic writing are found on hieroglyphic labels from Umm el-Qaab in Southern Egypt, and on proto-cuneiform tablets from the Uruk-IV/III strata of various Mesopotamian sites, all dating from the last centuries of the 4th millennium BCE[2].

In Egypt, the earliest writing known to us is hieroglyphic, either scratched on bone or ivory labels, or painted on pottery vessels. The characters of this writing system are discrete, and show the high degree of iconicity that would remain a conspicuous characteristic of the script throughout its history, lasting until the end of the 4th century CE[3]. It was apparently not until the 29th-27th centuries BCE that cursive variants of

[1] The present article includes results of the research programme «Symbolizing Identity. Non-textual identity marks and their relation to writing in New Kingdom Egypt», carried out at Leiden University, 2011-2015, and supported by the Netherlands Organization for Scientific Research (NWO). The research team included PhD students Kyra van der Moezel and Daniel Soliman, who were supervised by Olaf Kaper and the author. Advisory members of the team were Robert Demarée, Alex de Voogt and Dirk de Vries. The resulting PhD theses were both defended in September 2016 (Soliman 2016; Van der Moezel 2016). A synthesis of the results of the entire project and previous research is to be published shortly (Haring forthcoming). The English of this paper has kindly been corrected by Mervyn Richardson.

[2] See e.g. Cooper 2004 and Baines 2004.

[3] This article offers no room for an extensive explanation the hieroglyphic script and the language it was used for. For a brief introduction see Collier and Manley 1998; a more extensive and widely used manual is Allen 2014.

A.M. Jasink, J. Weingarten, S. Ferrara (edited by), Non-scribal Communication Media in the Bronze Age Aegean and Surrounding Areas, ISBN (online) 978-88-6453-637-8, ISBN (print) 978-88-6453-636-1, CC BY 4.0, 2017 Firenze University Press

hieroglyphs developed into a separate type of script, called hieratic by Egyptologists[4]. Many hieratic characters retained some degree of iconicity, but most underwent drastic graphic simplification, and with the coming of ligatures (signs graphically joined) by the mid-3rd millennium BCE, hieratic had acquired its most distinctive characteristic as a separate type of script. Hieroglyphic, meanwhile, further developed its own cursive variant, which became another type of script, different from both monumental hieroglyphic and hieratic[5]. These three Egyptian scripts would endure, following their own palaeographic developments, for millennia to come.

Most of the select number of people in Ancient Egyptian society who could read and write to any extent would write in hieratic on papyrus, writing boards and ostraca. Hieroglyphs were for religious and funerary monuments. These monuments with their hieroglyphic script dominate our modern perception of Ancient Egyptian culture. But they were the products of specialized draughtsmen, or as they were literally called in Egyptian, «outline scribes» (*sš-qd*)[6]. Egyptologists consider that never more than one percent of the population in pre-Hellenistic times and throughout Pharaonic history achieved full literacy in any type of script. The role of written texts in society was very limited[7].

Writing, marks and other notations

At this point, indeed throughout this paper, it is important to reflect on the very notion of literacy. Scholarly discussions of the subject obviously focus on writing in the strict linguistic sense of the word, usually without including other types of visual notation and expression. Yet writing is part of a much more extensive spectrum of visual and material communication that includes many other types of systematic notation or sign systems. Without downplaying the important role writing may have in society, or the very specific nature of writing as a sign system, one should bear in mind that writing shares its working field with other sign systems, and interacts with them[8]. Together with writing, these systems can be brought together under the heading «graphic information processing», which also includes such things as marking systems, graphic memory aids, numerical notations and pseudo-script[9]. Studies that ascribe to writing a role of central importance are inclined to see other systems of graphic information processing as marginal, or even as predecessors of writing from an evolutionary perspective. Yet writing is not necessarily the ultimate product of a historical development that went from one graphic mode to another. It is true that societies without writing may have other notation systems, such as graphic memory aids (e.g. the «winter counts» of native North American cultures) or numerical notation (e.g. tally systems). But these same genres also flourish in societies heavily involved in writing. Pictorial bibles in late medieval and

[4] As argued by Regulski 2009.

[5] See Caminos and Fischer 1979: 39-44 with fig. 4 for the different types of Ancient Egyptian script.

[6] On Ancient Egyptian draughtsmen, see most recently Andreu 2013.

[7] On literacy in Ancient Egypt, see Baines 2007: 31-178; on the role of texts in society, see Eyre 2013.

[8] For the spectrum of visual expression and communication, including writing and other notational and pictorial modes, see e.g. Elkins 1999 and Harris 1995; 2000, both building on the earlier theoretical work by Jacques Derrida, Nelson Goodman, and Ludwig Wittgenstein, among others.

[9] Kammerzell 2009.

Renaissance Europe were not the tools of illiterate worshippers, but of intellectual clerics, to be instrumental in the *ars memorativa*. The English tally sticks of the Middle Ages and later centuries could be used by owners of cattle and sheep who might conceivably have been semi-literate or even illiterate, but they were also filed and provided with supplementary written dockets by government administrators[10].

The same is true for marking systems, some of which appear to have come into being at the same time as writing, or even in the later stages of literate cultures. Pot marks are among the oldest types of identity marks found in Egypt and the Near East, and the oldest specimens seem to date from about the middle of the 4th millennium BCE[11]. The earliest known Egyptian and Mesopotamian writing is from a little later, and is dated to 3400-3100. The team marks of the Egyptian pyramid builders are attested on stone blocks from the middle of the 3rd millennium onward, with a repertoire heavily influenced by hieroglyphic characters (Fig. 1).

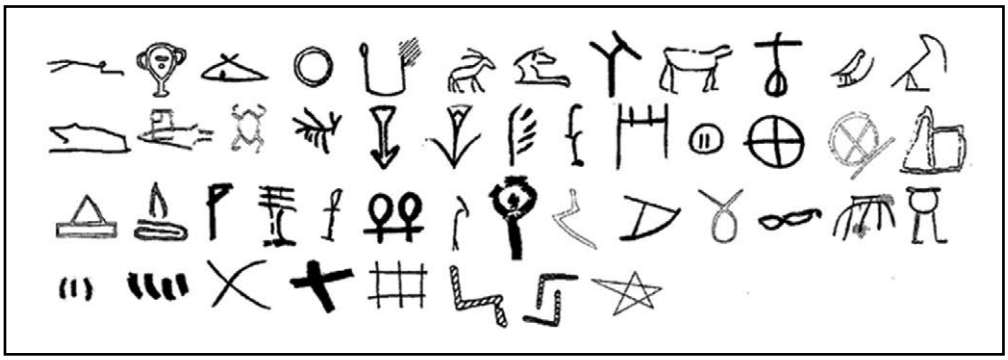


Fig. 1. Old and Middle Kingdom team marks. From Andrássy 2009: 18, fig. 9

A striking characteristic of Ancient Egyptian pot marks and team marks is that many of the individual signs resemble hieroglyphs, while others are pictorial, depicting objects, animals or human beings, without necessarily being hieroglyphic. Yet another type of sign within the same systems has abstract geometric forms. This triple morphology (written – pictorial – abstract) is universal[12]. It is reflected in the graphic repertory of marking systems, not only Ancient Egyptian ones but others also (e.g. medieval masons' marks). Even written documents include aspects that can be typified as «pictorial» and «abstract» (e.g. illustrations and layout). James Elkins considers that these three components, writing, pictures and abstract notation, are present in all visual sign systems, from notation systems to the arts[13].

The Deir el-Medina marks

A particularly well-attested system of identity marks was used by the workmen of the royal necropolis at Thebes during the Egyptian New Kingdom (ca. 1550-1070 BCE).

[10] For these and other examples see Kammerzell 2009: 286-294; Haring forthcoming: chapter 3.

[11] Pre-fired pot marks become frequent in Egypt towards the end of Naqada II (Bréand 2015: 188) but their first attestations are older; Mesopotamian pot marks are attested from the middle of 4th millennium onward (e.g. Oates and Oates 1997: 291 – ref. brought to my attention by Bleda Düring).

[12] Haring 2009a: 2-3; Haring forthcoming: chapter 2.

[13] Elkins 1999: 82-91.

The New Kingdom pharaohs and members of their families were buried in rock-cut tombs in the Theban mountains, notably in the so-called Valley of the Kings and the Valley of the Queens. The workmen who excavated and decorated these tombs were living in a settlement adjoining the Valley of the Kings, at a place nowadays called Deir el-Medina. Remains of the settlement itself, surrounded by the workmen's own tombs and cult chapels, can still be admired there. Archaeologists have brought to light many domestic and funerary objects and, most importantly, thousands of ceramic and limestone ostraca bearing hieratic and hieroglyphic texts as well as artisans' sketches. Many similar ostraca, textual and pictorial, have been found at the ancient work spots in the Valley of the Kings. Several hundred papyri connected with the necropolis workforce have also survived. By taking the archaeological and textual data together it becomes possible to reconstruct life in the settlement and the work procedures at the royal tombs. For much of the Ramesside Period (Nineteenth and Twentieth Dynasties, ca. 1300-1070 BCE), it is possible to trace individual lives and to reconstruct the histories of workmen's families, even over as many as eight generations. Such a combination of archaeological and textual documentation is unique in premodern history, and provides an excellent basis for the study of locally used identity marks. Unlike many other historical marking systems, including Ancient Egyptian ones, the Deir el-Medina marks can be assigned to historically documented individuals and families. The written records and materials bearing marks over such a long period make it possible to study the history of the marks in families and in the context of the royal necropolis workforce.

The system probably originated from earlier marking systems used in monumental building projects of the Old and Middle Kingdoms. The construction of temple complexes at Thebes, near the royal necropolis, was possibly the channel through which the practice of builders' marks reached the community of royal necropolis workmen[14]. The repertory of the marks closely follows the morphology of these earlier systems, and it includes signs inspired by hieroglyphs as well as pictorial signs not related to writing and abstract geometric marks. In the earliest documented phase of the Deir el-Medina system, ca. 1450-1350 BCE, hieroglyphic marks make up approximately fifty percent of the repertory (see Fig. 3); in later centuries the percentage grew to approximately eighty-five percent[15].

Two things, however, make the Deir el-Medina system quite different from its predecessors, not related to morphology but to function. The first difference is that the marks, unlike those previously used to identify teams of workmen, now refer to individuals[16]. They are arguably the earliest Egyptian marks to have functioned in this way[17]. The masons' marks on temple blocks from the second half of the 14th century, at Thebes and el-Amarna, similarly seem to refer to individual masons[18]. The second difference is that

[14] It is even possible that these workmen also participated in local temple building; Haring 2017.

[15] For details see Haring forthcoming: chapter 6.

[16] Although identifications for the earliest marks cannot be made, due to the absence of local written records, two circumstances suggest they were personal: (1) complete ostraca show numbers of different signs that correspond with the size of the gang of workmen as known from later sources; (2) the use of the marks seems to have been much similar to the identifiable ones of the Ramesside Period. One important earlier identification can be made: the mark of Kha, overseer of royal tomb construction in the early 14th century BCE, whose tomb has been found intact, with many items of the burial assemblage showing his mark  (Schiaparelli 1928). The same mark is found on pottery from the workmen's settlement; see e.g. Bruyère 1953: pl. XXI.

[17] The question if pot marks (other than the ownership marks at Deir el-Medina) ever denoted individuals is exceedingly difficult to answer; see Haring forthcoming: chapter 2.

[18] Haring 2017.

clusters of identity marks appear on ostraca, apparently for administrative purposes, whereas the earlier builders made their marks on the blocks of stone monuments. Moreover, the marks used by the necropolis workmen were multifunctional. We also find them on the personal property of the men and their families, such as pottery vessels and dishes, cloth, furniture and tools. During the Ramesside Period the marks are found as graffiti on rocks throughout the Theban mountains, mostly isolated but also in clusters. From the same period we find also hundreds of hieratic graffiti, mainly personal names, and it is likely that both the marks and the hieratic of these graffiti served the same purposes (Fig. 2)[19]. The marks carved in monumental dimensions (20-30 cm wide) on the stone pavement of the local temple of the goddess Hathor may have served as votive inscriptions[20].

The use of marks to identify personal property and individuals on graffiti find parallels in other periods and in different cultures across the globe[21]. But the use of the same marks for producing administrative records is unique. It is this practice in particular that concerns us here, since it shows remarkable developments in the relation between identity marks and writing within a single community.

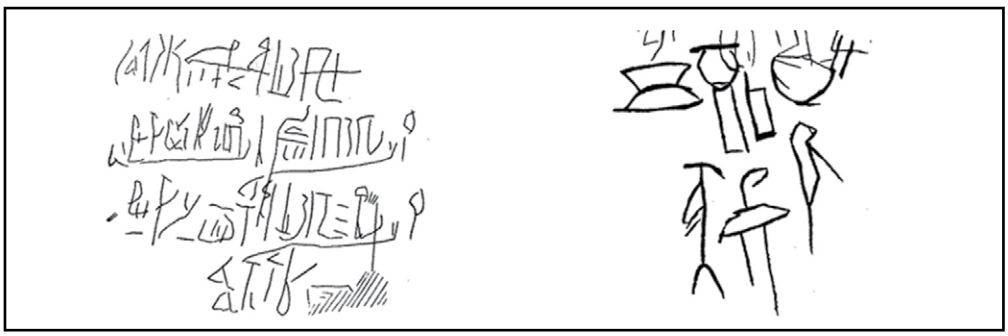


Fig. 2. Theban graffiti nos. 1138 (hieratic, left) and 2102 (marks, right). From Černý 1956: pl. 11; Černý and Sadek 1970: pl. XX

Marks and writing at Deir el-Medina

Being a body of highly specialized craftsmen under the direct supervision of government officials, the community of royal necropolis workmen of the Ramesside Period was exceptionally literate[22]. Local literacy and cultural expertise were much less evident in the earlier New Kingdom, the Eighteenth Dynasty. This can be inferred from the poor quality of local private tomb inscriptions and decoration, and the absence from the archaeological record of locally produced and discarded hieratic texts[23]. Very probably the organization and local expertise of the workforce were significantly different from the norms of later centuries, at least prior to ca. 1350 BCE. This is also reflected in the identity marks, which are mainly found on domestic and funerary pottery, and on ostraca. Approximately fifty

[19] Fronczak and Rzepka 2009. Basically, graffiti in the Theban mountains show the same graphic variety as ostraca: hieratic, hieroglyphic, marks, and pictorial graffiti of different kinds.

[20] Bruyère 1952: pl. IX.

[21] For comparative studies of marking systems see Andrássy *et al.* 2009; Budka and Kammerzell 2015; Evans Pimet *et al.* 2010; Haring and Kaper 2009.

[22] Baines 2007: 89-94, 174; Janssen 1992: 81-91.

[23] Haring 2017.

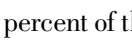
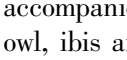
percent of the marks can be seen to have been inspired by hieroglyphs (e.g.  in Fig. 3), whereas other signs are seen to be pictorial but not hieroglyphic (), or even abstract (such as )[24]. The distinction between these three categories is often difficult to make. Since most Egyptian hieroglyphs are also pictorial, it can be difficult to decide if a mark was inspired by writing or if it simply depicts an object, animal, or human being without any reference to writing. The frequency or rarity of the supposed hieroglyph will often be the deciding factor. For example, the headrest  is attested as a hieroglyph but it is one which occurs in hieroglyphic inscriptions exceedingly rarely. Yet it would have been a common object among domestic and funerary furniture. Therefore, this mark is taken to represent a concrete object rather than a hieroglyphic character. An additional argument is that hieroglyphic writing was an artistic expertise not widely disseminated in Eighteenth Dynasty Deir el-Medina. Furthermore, hieratic writing (probably equally rare at the time) included less graphically specific signs but favoured simpler generic ones: for «headrest» it used the generic classifier for «wood» () with phonograms and not the image of the headrest itself.

Fig. 3. CG 24105, Eighteenth Dynasty, reign of Amenhotep II. From: Daressy 1902: pl. XVIII

Some of the marks thought to be of hieroglyphic origin present similar problems. While there is every chance that  in Fig. 3 was inspired by the ubiquitous bird signs of the hieroglyphic script, it is difficult to say which hieroglyphic bird in particular would have been the example. Is there any hieroglyphic reference at all, or is the actual «sign» the general notion «bird» (hieroglyphic or concrete pictorial)? The Eighteenth Dynasty samples suggest that the sign represents one or several species of duck or goose, but whereas carefully made hieroglyphs make it possible to distinguish between the species (and thus between different signs), the producers of the marks, if they were familiar with the differences, were indifferent to showing them.

The «bird» mark was still used locally in the Ramesside Period, but it was now accompanied by other types of birds () which may represent vulture, falcon, owl, ibis and duckling[25]. The falcon is particularly frequent on Ramesside ostraca to represent a workman called Hor. His name is identical with that of the falcon deity «Horus», and very probably it was the workman's own name that inspired the design of his mark. Some examples of this mark do seem to depict the characteristic profile of

[24] The marks are defined here by means of font types that have been created in the course of the research project (see note 1) for the purpose of classification and for the publication of the project's results. The types suggest much more uniformity in shape and orientation than is shown by the actual samples of marks, as can be seen from the illustrations to this article.

[25] For an extensive palaeographic discussion of these and other Deir el-Medina marks see Van der Moezel 2016.

a falcon (Fig. 4 left, second sign in the right column), but most have a much simplified form, not remotely resembling the bird itself (Fig. 4 right, second line in the right column). Characteristic features of the mark include a long, curved tail, and a head turned slightly backwards and not showing a beak. These are features which in fact belong to the hieratic character of the Horus falcon. Palaeographic features of many other marks together indicate a growing influence of the hieratic script, which was more and more widely used in the workmen's community in the course of the Ramesside Period[26]. In this case, features of the local writing system were clearly the points of departure for developing the graphic of a workman's identity mark.

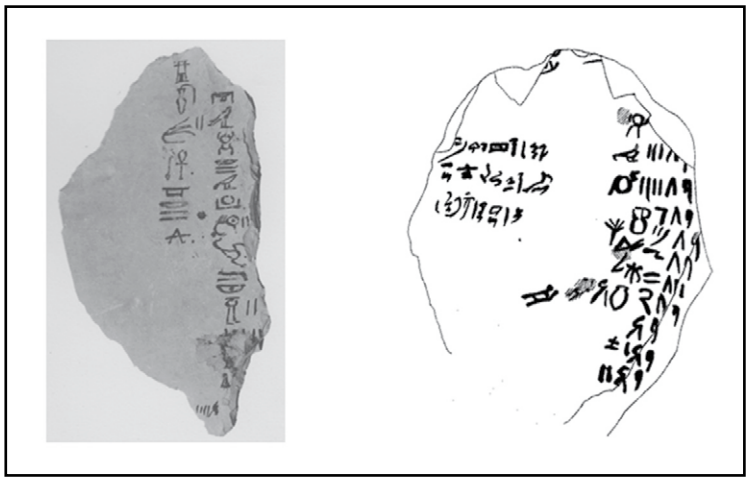


Fig. 4. Ostraca CG 25317 (left) and CG 25651 (right), both from the Twentieth Dynasty. From Daressy 1901: pl. LIX; Černý 1935: LXVI

Writing had, of course, been an important inspiration for the marking system already in the early New Kingdom as well as in earlier periods. The team marks of the pyramid builders already included hieroglyphic signs (Fig. 1), and so did the marks of the New Kingdom necropolis workmen. On ostraca the marks were arranged in rows or columns, formats also inspired by writing practice (Figs. 3-5). In the course of the Ramesside Period these scribal formats were taken a step further. The marks were incorporated in grid cells or in horizontal lines on ostraca, in combination with hieratic numbers and other signs (Fig. 5)[27].

These ostraca represent a very specific type of document that mimics similar texts in hieratic. The essential components of the variant types of document with marks are these: (1) a duty roster, being a rota of individual workmen on duty, one man a day, with a number in hieratic for the calendar date[28]; (2) a mark specifying the workman on duty on each separate day (e.g.  and  in Fig. 5); (3) signs representing commodities supplied (such as loaves, beer, firewood and fish); (4) signs representing persons responsible for the supplies (such as woodcutters and fishermen;  in Fig. 5, line 3, extreme left, is for a woodcutter named Usermaatrenakht).

[26] Haring 2003.

[27] For cells (Dyn. XIX) see Soliman forthcoming; for lines (Dyn. XX) see Haring and Soliman 2014.

[28] The purpose of this duty roster is not entirely clear; it is generally thought to have been used for the reception of supplies, but it may have been of more general use; see Haring 2015a.

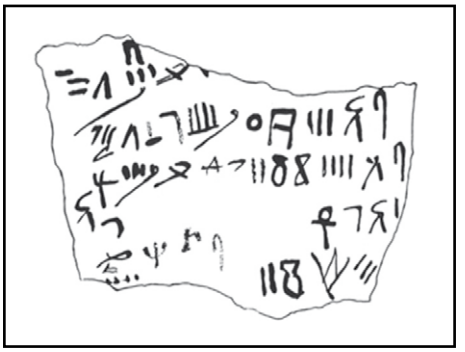


Fig 5. Ostracon Strasbourg H 13, late reign of Ramesses III. From Koenig 1997: pl. 6

In this particular type of ostraca, many dozens of which have survived from the Twentieth Dynasty, the marks have become components of what one may regard as pseudo-script. This system was actually an advanced stage in the older practice of arranging marks on ostraca, which may itself already be classified as pseudo-script. The advanced variant shares even more characteristics with writing: horizontal lines, signs borrowed from hieratic and, more generally speaking, conventional signs in a conventional order that may even be described as syntactical[29].

Such ostraca were probably produced by an extremely limited number of persons, who acted as assistants to the scribes who produced the hieratic ostraca and papyri[30]. This explains the substantial overlap of information between hieratic texts and ostraca inscribed with marks. Even the hieratic scribes themselves occasionally used the marks, as is shown by several ostraca displaying marks in a clearly hieratic ductus and in combination with hieratic text[31].

On most ostraca, however, the crude style of the hieratic numbers combined with marks, or indeed the crudely made marks themselves, betray the hands of persons not fully trained in hieratic writing (or hieroglyphic). These individuals represent a specific type of semi-literacy: «scribes» with a restricted knowledge of writing and of other visual codes, including the local marking system. Their «texts» remind us that literacy exists in different degrees and types. They also make clear that «literacy» is not necessarily only about writing in the strictest possible sense. Rather they represent a separate type of notation system resourced from at least two codes, hieratic writing and a system of identity marks.

The often crude forms of the hieratic numbers make it clear that they were not formed by fully trained scribes. In addition, the way the numbers were used betrays a very limited knowledge of the cursive script. The clearest case is of calendar dates, which are given the same form of ordinary hieratic numbers as those for the quantification of supplies. Hieratic scribes used a different numbering format for dates, so that dates could be recognized immediately as such in administrative texts, which were organized

[29] Of course, some of these characteristics also apply to earlier ostraca with marks only, arranged in horizontal lines or in vertical columns. Pseudo-script may be defined in different ways; my understanding of the expression is similar to the one proposed by Elkins 1999: 143-163; see also Kammerzell 2009: 298-301.

[30] As is argued extensively in Soliman 2016.

[31] See e.g. Haring 2009b: 132. Marks are not found on any of the papyri produced by the royal necropolis administration.

principally by dated entries[32]. Another striking phenomenon, although relatively rare, is adopting a left-to-right ductus and even mirroring the images for hieratic characters for numbers, which in hieratic are invariably written from right to left[33].

A system?

In the previous sections, the expression «marking system» has been used without an explanation of its supposed systematic nature. The use of marks on ostraca is systematic to the extent that it has been inspired by writing, but the morphology of the marks themselves, which is quite diverse, is not particularly suggestive of a system. It includes signs inspired by writing, but also pictorial marks from different derivations, as well as abstract signs. All three of these categories were involved at any point in time during the New Kingdom, although the hieroglyphic category was always dominant and made up the majority of marks during the Ramesside Period. Considering these different derivations, and the fact that some workmen had marks inspired by their own names (such as Hori's falcon ) whereas others had not, one might be inclined to conclude that anything goes. Moreover, the differences in morphological typology imply different semiotic processes for «reading» the marks and identifying their owners by members of an Ancient Egyptian community[34]. A prerequisite for interpreting the marks would seem to have been a personal acquaintance with their owners, a familiarity with their names and genealogies, and some knowledge of hieroglyphic writing. Most important, however, would have been a familiarity with the system behind the marks, that is, being aware that the sign was a distinctive mark which referred to an individual within the community of the necropolis workmen.

Indeed, whereas the marks represent an open system morphologically speaking, it was their functional context that posed restrictions. Marks referred only to workmen and their immediate superiors (foremen and scribes), and reflected their official position in the gang, in the local hierarchy, and in the duty roster. The number of different marks in use could be no more than the number of workmen active at any given time (approximately forty in the Eighteenth and Nineteenth Dynasties, sixty or more in the Twentieth). In addition to the context of work and employment, there were family traditions. The position of a royal necropolis workman was usually passed on from father to son, and this practice is reflected in the use of the marks, which often also went from father to son. Just as often, however, a mark could skip a generation and pass from grandfather to grandson. This occurred when a son took up his position as a workman while his father still kept his. In such a case, the grandfather's mark could be used, if that was different from the father's, or a new mark could be created. The latter practice explains why some marks were inspired by the owners' names while others were not. In the later part of the reign of Ramesses III, for instance, a workman called Meryre inherited the mark  from his

[32] In addition to special hieratic signs (proceeding from horizontal signs for units and tens instead of vertical ones), the scribes would often use red ink for calendar dates, which is never done on the pseudo-script ostraca.

[33] Entire entries have been written from left to right on unpublished ostracon Asmolean Museum HO 1084. Eight other unpublished pieces feature the writing of units to the right of tens; mirror images of the hieratic sign for «20» occur on Fitzwilliam Museum EGA 6120.1943 obv. 1 and rev. 5 (Hagen 2011: 77 and 119); Strasbourg H 10 rev. 6 (Koenig 1997: pl. 4).

[34] The semiotic processes involved are thoroughly discussed by Van der Moezel 2016.

father Neferhotep (one of them is represented by that mark in Fig. 5, line 2). The mark, which was probably inspired by a hieroglyph depicting the sky (*pet* in Egyptian)[35], does not seem to be related to either of the two names. Meryre's elder brother, who was called Neferhotep just like his father, used a different mark,  , resembling the hieroglyphic sign for the hoe (Egyptian *mer*). Neferhotep had inherited that mark from his paternal grandfather who was called Meryre. The sign is probably related to that name and may have been created for Neferhotep's grandfather, or for an earlier ancestor with the same name. Thus a newly created mark could take the owner's name as its inspiration, but end up being used by a descendant with a different name. Another example is Hori, who used the falcon mark  inspired by his own name. His father Huynefer had used , a mark inspired by the hieroglyphic sign *ankh* «to live», which seems unrelated to Huynefer's own name, and may have been in the family for some time already. The same mark was used by his grandson (and son of Hori), Minkhau, who is the one represented in Fig. 5, line 4. This paper is not the place to go deeply into the prosopography of individual workmen and their families, so these examples must suffice to outline the difficulties[36].

The Deir el-Medina marks as a case of *bricolage*

The sources of the Deir el-Medina marking system were an older marking system (or more than one), and the hieroglyphic and hieratic scripts. The marking system and hieratic writing were sources, in their turn, of the pseudo-script on ostraca, from the simple horizontal rows of marks in the Eighteenth Dynasty to the mixed code including marks and hieratic in the Twentieth. Both processes may be labelled as *bricolage*, a term coined by the anthropologist Claude Lévi-Strauss to refer to the creation of a new structure (in our case, a code) incorporating elements of one or more already existing, or which had existed. The result of such a process is «a system of paradigms with the fragments of syntagmatic chains, leading in turn to new syntagms»[37]. What we see here is the creation of new sign systems on the basis of existing ones, a process repeated numerous times in the history of visual and material sign systems. Although writing systems are often regarded only as the products of such processes, it is fairer to say that there is ongoing contact and interchange between different sign systems, including writing. This paper has demonstrated that writing was an important source of inspiration for the development and use of marking systems. The reverse may have applied in other historical cases. For instance, the Beria or «camel» script, one of the 20th century alphabetic scripts developed in northern Africa, was based on marks as they were made on the skins of camels[38]. But in that particular case the camel marking system merely supplied the graphs, and the society in which they were used was already familiar with the notion of alphabetic writing through existing scripts. In other words, both marks and alphabetic writing were the sources of this particular process of *bricolage*, which resulted in the creation of a new alphabet.

[35] Actually *pt*. Hieroglyphic and hieratic writing does not include vowels; vocalized transcriptions of words and proper names as given in this paper are purely artificial Egyptological conventions.

[36] The identifications and prosopographic particulars of this and many other cases are worked out fully in Soliman 2016.

[37] Chandler 2007: 205 – this quote incorporates one by Lévi-Strauss himself.

[38] Rovenchak and Glavy 2011.

Many examples can be given of processes in which one writing system is a source of inspiration for another. Egyptian hieroglyphic and cursive writing inspired the development of the monumental and cursive scripts of the kingdom of Meroe, in what is now the northern Sudan, perhaps from the 3rd century BCE onward[39]. The original scripts provided the graphs as well as their Egyptian phonetic values, but whereas Egyptian hieroglyphic and cursive were consonantal scripts, their Meroitic counterparts rendered a different language and were syllabic, therefore conceptually different. A similar conceptual difference can be seen in the development of what is regarded as the earliest known alphabetic writing system, so-called Proto-Sinaitic, attested at Serabit el-Khadim (Sinai) and Wadi el-Hol (southern Egypt)[40]. Here also Egyptian hieroglyphs were at least one of the sources of inspiration, while some signs of the supposed alphabet may have been concrete pictorial and abstract geometric. In that case the script would show the triple morphology that also characterizes a number of marking systems. The resulting signary probably encoded a West Semitic language, and its individual signs all stood for single consonants, whereas Egyptian hieroglyphs denoted one, two or three consonants. The phonetic values were not those of their Egyptian counterparts but new ones arrived at by means of acrophony, such as an ox-head for ʾ (the consonant known to Semitists and Egyptologists as *ʾaleph*; cf. Hebrew *ʾeleph* and Akkadian *alpu* «ox») or a house plan for *b* (cf. Hebrew *bayit/bet* «house»). Both the Deir el-Medina marks and the Sinai alphabet may well be similar examples of the process of *bricolage*.

The question as to whether and how the earliest known writing in Egypt and Mesopotamia was inspired by already existing sign systems is difficult to answer. Marks of the types discussed in this chapter (pot marks and workmen's marks) may not be essentially older than writing; hence they were not necessarily the starting points of the *bricolage* that resulted in the hieroglyphic and proto-cuneiform scripts. Yet it is conceivable, even very likely, that writing developed out of existing graphic codes, including ones that we are inclined to call «art», and it certainly remained in touch with these after having grown into a well-defined system.

Bibliography

Allen, J.P. 2014. *Middle Egyptian. An Introduction to the Language and Culture of Hieroglyphs* (3rd ed.). Cambridge; Cambridge University Press (1st ed. 2000).

Andrássy, P. 2009. Die Teammarken der Bauleute des ägyptischenAlten und MittlerenReiches. In: B.J.J. Haring, O.E. Kaper (eds.), *Pictograms or Pseudo Script? Non-textual identity marks in practical use in Ancient Egypt and elsewhere. Proceedings of a Conference in Leiden, 19-20 December 2006 (Egyptologische Uitgaven 25)*. Leiden and Leuven: Nederlands Instituut voor het Nabije Oosten and Peeters: 5-48.

Andrássy, P., Budka, J.,Kammerzell, F. (eds.). 2009. *Non-Textual Marking Systems, Writing and Pseudo Script from Prehistory to Modern Times* (Lingua Aegyptia -Studiamonographica 8). Göttingen: Seminar für Ägyptologie und Koptologie.

Andreu-Lanoë, G. (ed.). 2013. *L'art du contour. Le dessin dans l'Égypte ancienne*. Paris: Musée du Louvre and Somogy éditions d'art.

Baines, J. 2004. The earliest Egyptian writing: development, context, purpose. In: S.D. Houston

[39] Rilly 2007: 231-358; Morenz 2009: 205-207.

[40] At both sites possibly going back to the 18th century BCE; see Haring 2015b.

(ed.), *The First Writing. Script Invention as History and Process*. Cambridge etc.: Cambridge University Press: 150-189.

Baines, J. 2007. *Visual and Written Culture in Ancient Egypt*, Oxford: Oxford University Press.

Baines, J., Eyre, C.J. 1983. Four notes on literacy, *Göttinger Miszellen* 61: 65-96.

Bréand, G. 2015. Pot Marks on Bread Moulds in Settlement Context during Naqada III Period. In: J. Budka, F. Kammerzell, S. Rzepka (eds.), *Non-Textual Marking Systems in Ancient Egypt (and Elsewhere)* (Lingua Aegyptia Studia Monographica 16). Hamburg: Widmaier Verlag: 187-213.

Bruyère, B. 1952. *Rapport sur les fouilles de Deir el Médineh (1935-1940)* II (Fouilles de l'Institut Français du Caire 20). Cairo: Institut Français d'Archéologie Orientale.

Bruyère, B. 1953. *Rapport sur les fouilles de Deir el Médineh (années 1948 à 1951)* (Fouilles de l'Institut Français du Caire 26). Cairo: Institut Français d'Archéologie Orientale.

Budka, J., Kammerzell, F., Rzepka, S. (eds.). 2015. *Non-Textual Marking Systems in Ancient Egypt (and Elsewhere)* (Lingua Aegyptia Studia Monographica 16). Hamburg: Widmaier Verlag.

Caminos, R., Fischer, H.G. 1979. *Ancient Egyptian Epigraphy and Palaeography* (2nd ed.), New York: The Metropolitan Museum of Art (1st ed. 1976).

Černý, J. 1935. *Ostraca hiératiques Nos. 25501-25832* (Catalogue général des antiquités égyptiennes du Musée du Caire). Cairo: Institut Français d'Archéologie Orientale.

Černý, J. 1956. *Graffiti hiéroglyphiques et hiératiques de la nécropole thébaine Nos 1060 à 1405* (Documents de fouilles publiés par les membres de l'Institut Français d'Archéologie Orientale 9). Cairo: Imprimerie de l'Institut Français d'Archéologie Orientale.

Černý, J., Sadek, A.A. 1970. *Graffiti de la montagne thébaine* III.2 (Centre d'étude et de documentation sur l'ancienne Egypte. Collection scientifique). Cairo: Centre d'étude et de documentation sur l'ancienne Egypte.

Chandler, D. 2007. *Semiotics. The Basics* (2nd ed.), London and New York: Routledge (1st ed. 2000).

Collier, M., Manley, B. 1998. *How to read Egyptian hieroglyphs. A step-by-step guide to teach yourself*, London: The British Museum Press.

Cooper, J.S. Babylonian beginnings: the origin of the cuneiform writing system in comparative perspective. In: S.D. Houston (ed.), *The First Writing. Script Invention as History and Process*. Cambridge etc.: Cambridge University Press: 71-99.

Daressy, G. 1902. *Fouilles de la Vallée des Rois* (Catalogue général des antiquités égyptiennes du Musée du Caire nos. 24001-24990). Cairo: Institut Français d'Archéologie Orientale.

Elkins, J. 1999. *The Domain of Images*, Ithaca and London: Cornell University Press.

Evans Pim, J., Yatsenko, S.A., Perrin, O.T. (eds.). 2010. *Traditional Marking Systems. A Preliminary Survey*, Dover: Dunkling Books.

Eyre, C.J. 2013. *The Use of Documents in Pharaonic Egypt* (Oxford Studies in Ancient Documents), Oxford: Oxford University Press.

Fronczak, M., Rzepka, S. 2009. «Funny Signs» in Theban Rock Graffiti. In: P. Andrássy, J. Budka, F. Kammerzell (eds.), *Non-Textual Marking Systems, Writing and Pseudo Script from Prehistory to Modern Times* (Lingua Aegyptia - Studia monographica 8). Göttingen: Seminar fürÄgyptologie und Koptologie: 159-178.

Hagen, F. 2011. *New Kingdom Ostraca from the Fitzwilliam Museum, Cambridge*, (Culture and History of the Ancient Near East 46). Leiden and Boston: Brill.

Haring, B.J.J. 2003. From Oral Practice to Written Record in Ramesside Deir el-Medina, *Journal of the Economic and Social History of the Orient* 46: 249-272.

Haring, B.J.J. 2009a. Introduction. In: B.J.J. Haring, O.E. Kaper (eds.), *Pictograms or Pseudo Script? Non-textual identity marks in practical use in Ancient Egypt and elsewhere. Proceedings of a Conference in Leiden, 19-20 December 2006* (Egyptologische Uitgaven 25).

Leiden and Leuven: Nederlands Instituut voor het Nabije Oosten and Peeters: 1-4.

Haring, B.J.J. 2009b. On the Nature of the Workmen's Marks of the Royal Necropolis Administration in the New Kingdom. In: P. Andrássy, J. Budka, F. Kammerzell (eds.), *Non-Textual Marking Systems, Writing and Pseudo Script from Prehistory to Modern Times* (Lingua Aegyptia - Studia monographica 8). Göttingen: Seminar für Ägyptologie und Koptologie: 123-135.

Haring, B.J.J. 2015a. Between Administrative Writing and Work Practice: Marks ostraca and the roster of day duties of the royal necropolis workmen in the New Kingdom. In: J. Budka, F. Kammerzell, S. Rzepka (eds.), *Non-Textual Marking Systems in Ancient Egypt (and Elsewhere)* (Lingua Aegyptia Studia Monographica 16). Hamburg: Widmaier Verlag: 133-142.

Haring, B.J.J. 2015b.The Sinai Alphabet: Current State of Research. In: R.E. de Jong, T.C. van Gool, C. Moors (eds.), *Proceedings of the Multidisciplinary Conference on the Sinai Desert, Saturday 20 and Sunday 30 November, 2014, held at the Netherlands-Flemish Institute in Cairo*: 18-32. [URL: http://media.leidenuniv.nl/legacy/sinaipapersproceedings.pdf].

Haring, B.J.J. 2017. Popular, but unique? The early history of the royal necropolis workmen's marks. In: A. Dorn, S. Polis (eds.), *Deir el-Medina and the Theban Necropolis in Contact*. Liège: Presses Universitaires.

Haring, B.J.J. Forthcoming. *From Single Sign to Pseudo Script. An Ancient Egyptian System of Workmen's Identity Marks* (Culture and History of the Ancient Near East). Leiden-Boston: Brill.

Haring, B.J.J., Kaper, O.E. (eds.). 2009. *Pictograms or Pseudo Script? Non-textual identity marks in practical use in Ancient Egypt and elsewhere. Proceedings of a Conference in Leiden, 19-20 December 2006* (Egyptologische Uitgaven 25). Leiden and Leuven: Nederlands Instituut voor het Nabije Oosten and Peeters.

Haring, B.J.J., Soliman, D.M. 2014. Reading Twentieth Dynasty Ostraca with Workmen's Marks. In: B.J.J. Haring, O.E. Kaper, R. van Walsem (eds.), *The Workman's Progress. Studies in the Village of Deir el-Medina and Other Documents from Western Thebes in Honour of Rob Demarée* (Egyptologische Uitgaven 28). Leiden and Leuven: Nederlands Instituut voor het Nabije Oosten and Peeters: 73-93.

Harris, R. 1995. *Signs of Writing*, London etc.: Routledge.

Harris, R. 2000. *Rethinking Writing*, London: The Athlone Press.

Janssen, J.J. 1992. Literacy and Letters at Deir el-Medîna. In: R.J. Demarée, A. Egberts (eds.), *Village Voices. Proceedings of the symposium «Texts from Deir el-Medîna and their interpretation». Leiden, May 31 - June, 1, 1991* (CNWS Publications 13). Leiden: Centre of Non-Western Studies, Leiden University: 81-94.

Kammerzell, F. 2009. Defining Non-Textual Marking Systems, Writing, and Other Systems of Graphic Information Processing. In: P. Andrássy, J. Budka, F. Kammerzell (eds.), *Non-Textual Marking Systems, Writing and Pseudo Script from Prehistory to Modern Times* (Lingua Aegyptia - Studia monographica 8). Göttingen: Seminar für Ägyptologie und Koptologie: 277-308.

Koenig, Y. 1997. *Les ostraca hiératiques inédits de la Bibliothèque Nationale et Universitaire de Strasbourg* (Documents de fouilles 33). Cairo: Institut Français d'Archéologie Orientale.

Morenz, L.D. 2009. Sakrale Motiviertheit alphabetischer Zeichen welten. Bildhaft-Kanaanäisch, Meroitisch-Hieroglypisch und eine gräko-ägyptische, hieroglyphische Alphabetschrift. In: B.J.J. Haring, O.E. Kaper (eds.), *Pictograms or Pseudo Script? Non-textual identity marks in practical use in Ancient Egypt and elsewhere. Proceedings of a Conference in Leiden, 19-20 December 2006* (Egyptologische Uitgaven 25). Leiden and Leuven: Nederlands Instituut voor het Nabije Oosten and Peeters: 199-210.

Oates, J., Oates, D. 1997. An Open Gate: Cities of the Fourth Millennium BC (Tell Brak 1997), *Cambridge Archaeological Journal* 7.2: 287-297.

Regulski, I. 2009. The beginning of Hieratic Writing in Egypt, *Studien zur Altägyptischen Kultur* 38: 259-274.

Rilly, C. 2007. *La langue du royaume de Méroé. Un panorama de la plus ancienne culture écrite d'Afrique subsaharienne* (Bibliothèque de l'École des Hautes Études. Sciences historiques et philologiques 344). Paris: Librairie Honoré Champion.

Rovenchak, A., Glavy, J.M. 2011. *African Writing Systems of the Modern Age: the Sub-Saharan Region*, New Haven: Athinkra LLC.

Sass, B. 1988. *The Genesis of the Alphabet and its Development in the Second Millennium B.C.* (Ägypten und Altes Testament 13), Wiesbaden: Otto Harrassowitz.

Schiaparelli, E. 1928. *La tomba intatta dell'architetto Cha nella necropoli di Tebe* (Relazione sui lavori della missione archeologica Italiana in Egitto, anni 1903-1920), Turin: R. Museo di Antichità.

Soliman, D.M. 2016. *Of Marks and Men. The Functional and Historical Context of the Workmen's Marks of the Royal Theban Necropolis*. PhD thesis, Leiden University.

Soliman, D.M. Forthcoming. Two groups of Deir el-Medina ostraca recording duty rosters and daily deliveries composed with identity marks. In: J. Cromwell (ed.), *Observing the Scribe at Work* (Orientalia Lovaniensia Analecta). Leuven: Peeters.

Van der Moezel, K.V.J. 2016. *Of Marks and Meaning. A Palaeographic, Semiotic-Cognitive, and Comparative Analysis of the Identity Marks from Deir el-Medina*. PhD thesis, Leiden University.